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WEST NILE VIRUS

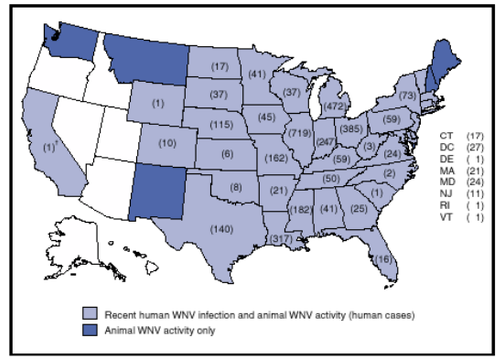
A POTENTIAL THREAT TO UTAH"S HORSES AND PEOPLE

Utah Department of Agriculture and Food
Division of Animal Industry

West Nile Virus

West Nile virus was first recognized in the United States in 1999 as the cause of severe and fatal human illness in metropolitan New York City. West Nile virus is commonly found in Africa, West and Central Asia, and the Middle East. It is not known how the virus was first introduced into the United States, but since the initial appearance it has spread rapidly, and by 2001 was found throughout the eastern half of the country. By October of 2002, 43 states had reported cases of West Nile virus.

FIGURE. Areas reporting West Nile virus (WNV) activity — United States, 2002*

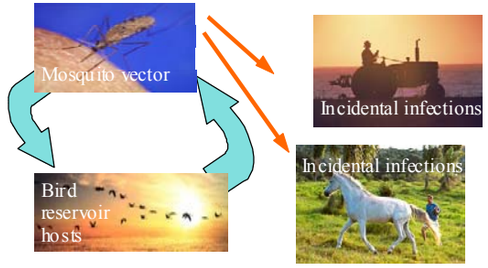


* As of 7 a.m. Mountain Standard Time, October 30, 2002.
† California has reported human WNV activity only.

How is West Nile virus transmitted?

The principal transmission cycle of West Nile virus involves several species of mosquitoes and various species of birds. Mosquitoes become infected with West Nile virus when they feed on a bird carrying the virus in its blood. After 10 to 14 days, the virus can be transmitted to another bird, person, or other animal that the mosquito bites. During blood feeding the mosquito injects the virus, contained in its saliva, into the bird, animal, or person – where the virus replicates and may cause illness. Although humans and some other animals may get sick when infected with West Nile virus, it is thought that they usually do not develop enough virus in the bloodstream to infect mosquitoes. For this reason, humans and animals such as horses are referred to as incidental hosts. **West Nile virus is not spread from person to person or from horse to horse.** The main role that people play in contributing to the continuing cycle of West Nile virus is by maintaining environments (especially standing water) in which mosquitoes can lay eggs.

West Nile Virus Transmission Cycle



What are the symptoms of West Nile Virus infection?

The symptoms in horses can be confused with rabies, EPM (Possum Disease), equine encephalitis, and other serious neurological diseases. If you see these signs in your horse, see your veterinarian immediately.

- Stumbling or tripping
- Muscle weakness or twitching
- Partial paralysis
- Loss of appetite
- Depression or lethargy
- Head pressing or tilt
- Impaired vision
- Wandering or circling
- Inability to swallow
- Inability to stand up
- Fever
- Convulsions
- Coma
- Death

Most people who are infected with West Nile virus will not develop symptoms. Some people may become ill 3 to 15 days after the bite of an infected mosquito. Evidence suggests that a minority of infected persons will develop a mild illness with fever, headache, body aches, and sometimes skin rash and swollen glands. There are no known long-term effects due to mild illness.

West Nile virus infection infrequently results in a severe illness, however, known as West Nile encephalitis. Encephalitis is an inflammation of the brain that may be marked by headache, high fever, stiff neck, stupor, disorientation, coma, tremors, convulsions, muscle weakness, and paralysis. A small percentage of cases have been fatal. Persons over 50 years of age have the highest risk of severe disease.

How is West Nile virus infection treated?

There is no specific treatment for West Nile virus. Your veterinarian may be able to provide supportive therapy that can save your horses life. However, in addition to good mosquito control, there is now a vaccine that may aid in the prevention of disease caused by West Nile virus.

What can we do to prevent West Nile infection?

Control of mosquito becomes very important in the prevention of this disease. Mosquito control tips are:

- Keep horses stabled during dawn and dusk, when mosquitoes are most active.
- Turn off lights that attract mosquitoes at night.
- Use fluorescent lights, which do not attract mosquitoes.
- Keep screens in stable windows.
- Eliminate common mosquito breeding areas like shallow stagnant water and puddles.
- Empty water collecting in buckets, tarps, or tires.
- Clean water troughs once a week.
- Use Mosquito repellent or fogging according to label directions.

The U.S. Department of Agriculture recently granted a full license for the first West Nile virus vaccine for horses. The vaccine is labeled for vaccination of healthy horses as an aid in the prevention of disease caused by West Nile virus and has been found safe for all horses. The recommended dose is two 1-mL doses, three weeks apart, plus annual revaccination. The vaccine is available only from a licensed veterinarian. It is important to remember that vaccines that protect your horse against Western, Eastern and Venezuelan equine encephalitis do not protect against encephalitis caused by West Nile virus. If you vaccinate against Western, Eastern and/or Venezuelan encephalitis, you should vaccinate against West Nile virus as well.

Since 1999, federal, state and local governments have been tracking the occurrence of West Nile virus infections in birds, mosquitoes, horses, and people. This tracking relies in part on people reporting dead and dying birds. The Utah Department of Agriculture and Food, the Utah Department of Health, the Utah Mosquito Abatement Association and the Division of Wildlife Resources have been cooperating in a project to alert horse owners and the public to the threat of West Nile virus. They have also performed surveillance on dead birds, mosquito pools, and sentinel chicken flocks since 2000. When the virus is detected in Utah, the public will be alerted. It is expected that WNV will be diagnosed in Utah sometime in 2003. Precautions should be taken prior to mosquito season.

Report dead or dying birds to your state health department. Avoid touching dead birds, or any dead animal, with your bare hands. Use gloves or an inverted plastic bag to place the carcass in a plastic bag. As policies may vary, ask your state or local health department about their requirements for submitting specimens for testing.

Local governments may make use of other resources, such as “larvicides” (chemicals that kill immature mosquitoes) applied to standing water where mosquitoes breed, or “adulticides” (chemicals that kill adult mosquitoes) to control mosquito populations in an area, especially if people have been infected. Check with your local health department or local mosquito abatement district for more information about programs to control disease-carrying mosquitoes in your area.

For more information:

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